

Application No. 09/838,684

IN THE SPECIFICATION:

Please insert the following on Page 1, line 2 before "Background of the Invention":

STATEMENT OF RELATED APPLICATION

A1
This application is related to patent application serial number 09/838,685 entitled "Apparatus for Printing Etch Masks Using Phase-Change Materials" also filed on April 19, 2001 and U.S. Patent Application serial number 10/334,595 entitled "Inexpensive fabrication of Large-Area Pixel Arrays for Displays and Sensors" filed December 30, 2002.

IN THE CLAIMS:

Please substitute the following for amended claims 1, 8, 11, 19, 23, 25 and 26 and add the new claims 31-32.

1. (Amended) A method of masking comprising the operations of:

maintaining a surface to be etched below the freezing temperature of a phase-change masking material;

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ejecting in liquid form droplets of the phase change masking material in a pattern on the surface to be etched, the droplets changing from a liquid to a solid after contact with the surface to form a first mask;

etching the surface to remove material from around said first mask to create a first etched surface; and

removing the first mask from said first etched surface.

8. (Amended) The method of claim 1 further comprising the operations of:

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depositing a second layer to be etched over the etched surface;

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maintaining the second layer to be etched below the freezing temperature of a second phase-change masking material;

A3 end
ejecting in liquid form a second plurality of droplets of the second phase change masking material in a second pattern on the second layer to be etched, the second plurality of droplets changing from a liquid to a solid after contact with the second layer to form a second mask;

etching the second layer to remove material from around said second mask to create a second etched surface; and

removing the second mask from said second etched surface.

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11. (Amended) The method of claim 1 wherein the phase-change masking material is a stearyl erucamide mixture solution.

19. (Amended) A method of patterning a thin film comprising the operations of:

depositing a thin film;

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depositing droplets of a phase change masking material with a freezing point between 50 and 100 degrees centigrade in a pattern on the thin film;

etching the thin film to remove portions not protected by the droplets of the phase change masking material; and

removing the droplets of the phase change masking material from the thin film.

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23. (Amended) A method of performing a masking process comprising the operations of:

depositing a coating of photosensitive material on a substrate to be patterned;

maintaining the coating of photosensitive material at a temperature below the freezing point of a phase-change material;

depositing droplets of phase-change material on the photosensitive material in a pattern;

exposing the photosensitive material not protected by the phase change material to ultraviolet light;

removing the phase change material; and,

removing the photosensitive material on the substrate not exposed to the ultraviolet light.

25. (Amended) The method of claim 23 wherein the spin-on polymer is a photosensitive polymer.

26. (Amended) A method of masking comprising the operations of:

maintaining a temperature of a surface to be etched above the boiling point of a liquid carrier, said liquid carrier including a suspended masking material;

ejecting in liquid form droplets of a solution including the liquid carrier and suspended masking material in a pattern on the surface to be etched, the liquid carrier rapidly evaporating after contact with the surface leaving the masking material to form a first mask;

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As each
etching the surface to remove material from around said mask to create a first etched surface; and

removing the mask from said first etched surface.

[Please add new claim 31 and 32]

31. (New) The method of masking of claim 1 wherein the temperature is maintained high enough to allow adjacent deposited drops to coalesce before freezing.

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32. (New) The method of claim 31 wherein a series of adjacent drops form a line to enable etching a straight line.
